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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/682,275 | 10/08/2003 | Daniel J. Zierath | 42P15929 | 9333 |

8791 7590 04/04/2007
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EXAMINER

LEADER, WILLIAM T

ART UNIT

PAPER NUMBER

1742

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS | 04/04/2007 | PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/682,275

Applicant(s)

ZIERATH ET AL.

Examiner

William T. Leader

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7 and 9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7 and 9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

1. Receipt of the papers filed on December 26, 2006, is acknowledged. Claims 1-6, 7 and 9 are pending.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

3. Claims 1-5, 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reid et al (US 2001/0015321) in view of the Lowenheim. Text *Electroplating*, Basol (6,921,551) and Mayer et al (6,946,065) for the reasons of record and in view of the following comments.

4. Applicant has amended claim 1 to recite that the step of determining the concentration of an accelerator based upon the chloride concentration and the leveler concentration is performed after determining the concentration of the chloride and the concentration of the leveler. At page 5 of the Remarks, applicant points out in paragraph 2 that Lowenheim does not suggest "determining a concentration of an accelerator for the high-acid electroplating solution based upon the chloride concentration and the leveler concentration after determining the concentration of the chloride and the concentration of the leveler". At page 5, paragraph 3 applicant points out that Basol does not teach or suggest "determining a concentration of an accelerator for the high-acid electroplating solution based upon the chloride concentration and the leveler concentration after determining the concentration of the chloride and the concentration of the leveler". At page

5, paragraph 3 applicant points out that Mayer does not teach or suggest "determining a concentration of an accelerator for the high-acid electroplating solution based upon the chloride concentration and the leveler concentration after determining the concentration of the chloride and the concentration of the leveler". Applicant concludes that the combined teaches of the references does not teach or suggest "determining a concentration of an accelerator for the high-acid electroplating solution based upon the chloride concentration and the leveler concentration after determining the concentration of the chloride and the concentration of the leveler".

5. This argument has been carefully considered but is not deemed to be persuasive. Basol teaches that chloride interacts with the accelerator and suppressor additives, while Mayer teaches that there is evidence for the interaction between the organic additive species. Thus, in view of cited references, one would conclude that the interaction between the various additives is mutual. That is, for example, the chloride interacts with the accelerator and the accelerator interacts with the chloride. The leveler interacts with the accelerator and the accelerator interacts with the leveler. Because of this interaction, it would have been obvious to have based the determination of the concentration of any one of the additives on the concentration of the other additives. More particularly, it would have been obvious to have based the determination of the concentration of the accelerator on the concentration of the chloride and the concentration of the leveler. This could only have been done after the concentration of the chloride and leveler were known. Thus, the concentration of the chloride and leveler would have been determined initially, and the concentration of the accelerator would have been determined afterward.

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6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William T. Leader whose telephone number is 571-272-1245. The examiner can normally be reached on Mondays-Thursdays and alternate Fridays, 7:30-4:00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King, can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



William Leader
March 29, 2007



ROY KING
SUPERVISING EXAMINER
TECHNOLOGY CENTER 1700